ECO 4400 **Name (Print):** _____
Fall 2016
Final
12/7/2016
Time Limit: 115 Minutes

This exam contains 6 short answer questions, 1 longer answer question, and 2 long answer questions. You must complete all short answer and longer answer questions; however, you only need to complete 1 of the long answer questions. Check to see if any pages are missing.

You may *not* use your books or notes on this exam. Calculators are permitted.

You are required to show your work on each problem on this exam. The following rules apply:

- **Organize your work**, in a reasonably neat and coherent way, in the space provided. Work scattered all over the page without a clear ordering will receive very little credit.
- **Show your work**. A correct answer, unsupported by calculations, explanation, or algebraic work will receive no credit; an incorrect answer supported by substantially correct calculations and explanations might still receive partial credit.
- If you need more space, use the back of the pages; clearly indicate when you have done this.

Short Answer Questions: Please answer the following in no more than twenty words each.

1. (6 points) Name the three types of strategic moves studied in the class.

2. (6 points) Name two traits that strategic moves must have in order to be effective.

3. (6 points) In a mixed strategy equilibrium, players are indifferent between what?

Use the following graph for question 4, 5, and 6.

		COLIN	
		Safe	Risky
ROWENA	Safe	4, 4	4, 1
	Risky	1, 4	6, 6

4. (6 points) What p-value will Rowena set in the mixed strategy equilibrium?

5. (6 points) What q-value will Colin set in the mixed strategy equilibrium?

6. (6 points) How many equilibria are there?

Longer Answer Question: Please answer the following. Be sure to label any graphs.

1. (34 points) (a) (17 points) Draw a game with the following characteristics: (i) Three players (ii) Each player has two actions (iii) Players move at the same time (iv) Only one player has a dominated strategy (v) There are two Nash Equilibria in pure strategy

(b) (17 points) Draw a game with the following characteristics: (i) Three players (ii) Each player has two actions per node (iii) Player 1 moves first (iv) Each player only moves once (v) There is a first mover advantage

Long Answer Questions: Please answer the following. Show all work. Draw graphs where needed. Only answer 1 of the 2 questions.

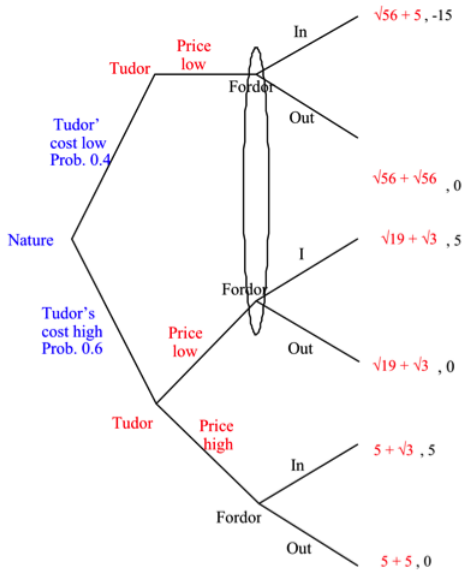
1. (30 points) (Repeated Games) Suppose the following game is played:

		Pierce's Pizza Pies	
		High	Low
Donna's Deep Dish	High	60, 60	36, 70
	Low	70, 36	50, 50

(a) (15 points) This game is played four times. Pierce will cooperate in round one and then every round after that, given that Donna has cooperated in the round before. If Donna does not cooperate in a certain round, Pierce will not cooperate in the following round and every round there after. The rate of return is 90% (r=0.9). Will Donna cooperate in the first round? Be sure to show your work.

(b) (15 points) Now assume that the Donna plays the tit-for-tat strategy. Pierce cooperates in rounds 1 and 3 but not in rounds 2 and 4. Draw out what each round will look like. Be sure to include the payoffs that each player receives in each round of player.

2. (30 points) (Uncertainty) Model the following game using a game matrix. Will the equilibrium be separating, semi-separating, or pooling?



Extra Credit: Name one pro and one con of Net Neutrality.